

# Culture and Computer-Mediated Communication: Toward New Understandings

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## Introduction

This collection of articles was originally inspired by several presentations at CATaC'04<sup>1</sup> and subsequent critical discussion of their use of the frameworks for cultural analyses developed by Edward T. Hall (1966, 1976) and Gert Hofstede (e.g., 1980, 1991). In response to these presentations and discussion, we developed this special thematic section for the *Journal of Computer-Mediated Communication*.

The thematic questions that guided this collection are:

- 1) To what extent are the now widely used—but also seriously criticized—frameworks for cultural analysis provided by Hall and Hofstede fruitful for cross-cultural and intercultural communication in CMC environments?  
and
- 2) How have CMC scholars and researchers developed, modified, and/or created alternative frameworks for analyzing cultural dimensions of online communication?

While each of the articles collected here can stand on its own, together they build a coherent response to these questions. In particular, they help to define more clearly those domains of online intercultural communication research that are well served by Hall's and Hofstede's frameworks, and those that are more fruitfully examined using alternative frameworks.

Corresponding roughly to the two questions above, the articles in this collection are organized into two sections. The articles included in Section I—Hall, Hofstede, and CMC: Applications and Contemporary Research—both individually and collectively build an extensive literature review of the significance of Hall's and Hofstede's

frameworks for cultural analysis in the research and findings of several disciplines, including marketing and various foci of CMC, such as HCI and organizational studies. This review highlights the most important critical limitations of these frameworks, including the limitations of Hofstede's original research database (i.e., to IBM employees) as a basis for generalizations regarding national culture, and questions surrounding the apparent assumptions regarding culture as fixed, essential, and synonymous with national cultures. Given these limitations, however, each of the authors then demonstrates in compelling ways that Hall and Hofstede still function well for at least certain kinds of online research. Perhaps the most notable such research is that related to the graphic elements of advertising Web sites, e.g., for universities (Hermeking) and multinational corporations (Würtz), that are localized in ways clearly consistent with Hall's and Hofstede's cultural analyses. At the same time, three of the studies show that the correlations found between culture and media use—as predicted on the basis of Hofstede's axes of individualism and uncertainty avoidance (Callahan; Barnett & Sung) and Hall's distinction between monochrons and polychrons (Lee)—do show up, but in ways that are statistically *weak*.

These results both confirm and identify the critical limits of Hall's and Hofstede's work. They also make clear that, as any number of critics points out, cultural analyses resting on such relatively simple dichotomies may be too simple for dealing with the real-world complexities of culture. Hence, in section II—Critical Turns, Alternative Frameworks—we turn to research and reflection that point beyond Hall and Hofstede. These articles develop first alternatives that may prove more useful for researchers attempting to come to grips with the complexities of culture online, including in specific contexts such as online classrooms and collaborative workgroups.

### **Hall, Hofstede, and CMC—Applications and Contemporary Research**

The collection opens with five articles that provide helpful overviews of the now extensive literature on Hall, Hofstede, and CMC, and demonstrate in their analyses how far Hofstede and Hall *succeed* as frameworks for fruitful and insightful analysis.

Marc Hermeking begins by reviewing the importance of Hofstede's dimensions in marketing literature and research. In particular, he shows striking correlations between two of Hofstede's dimensions—individualism (vs. collectivism) and uncertainty avoidance—and Internet use both globally and within the European Union and Scandinavian countries. There appears to be a strong positive correlation between Individualism and Internet usage, and a strong negative correlation between high Uncertainty Avoidance and Internet usage. These correlations have been noted in numerous earlier studies conducted on a global scale (e.g., Maitland & Bauer 2001) and are further supported in this issue by the statistical analyses of Barnett and Sung (see below). As Hermeking goes on to note, however, a first series of critiques of Hall and Hofstede's work rests on the basic notion of "culture" presumed in their work, a concept rooted specifically in the Functionalist theories of culture initially developed by Clyde Kluckhohn (e.g., 1949).

A central critique of Hofstede's work is that it relies on interviews with IBM employees in the 1960s and 1970s, thus raising serious questions about extending any of Hofstede's findings to national cultures. Moreover, both Hofstede and Hall seem to assume that "culture" is synonymous with *national* identities, thus ignoring internal ethnic and linguistic diversities. Such diversities increasingly shift and change, especially as the processes of immigration and globalization lead to new "third" identities that represent complex and shifting hybridizations of earlier cultural patterns (cf. Ess, 2005). But Hermeking, drawing on the recent work of de Mooij (2004), his own research, and that of others in this section, points out that Hofstede's axes (especially the individualism/collectivism axis) clearly succeed in mapping important cultural differences, at least within the discipline of marketing. This overview provides us with a critical first caveat regarding Hall and Hofstede:

Thus if the Internet, for example, is consumed in a country as a result of unconscious cultural communication preferences or as a result of unconscious values of being prepared to accept this new technology, Hofstede's and Hall's models and their cultural premises will be appropriate concepts for describing and explaining the cultural backgrounds. They probably will not work well, however, if several individuals increasingly use the Internet to observe and to imitate a new lifestyle from abroad as a kind of resistance against their dominant culture, or if Internet usage by a part of the population of a country is denied because it is regarded as an attribute of a denied lifestyle of another undesirable part of the population. (Hermeking, this issue)

This raises a central point for this collection: As the Internet fuels the processes of globalization and the development of "third" or hybrid identities resulting from the intercultural flows that it makes possible, the frameworks of Hall and Hofstede will become increasingly ill-suited to analyzing intercultural communication online as undertaken by such hybrid identities.

At the same time, Hall and Hofstede remain useful for analyzing specific forms of cross-cultural communication. Thus Hermeking presents his own framework for cultural analysis of Web sites, based initially on Hall's distinction between high context/low content (HC) and low context/high content (LC) communication styles, along with the initial results of his analysis of randomly selected Web sites of international companies and brands in Europe, the USA, and Japan. He finds that there is indeed an adaptation to the HC preferences of countries such as Japan, but primarily with regard to nondurable products (e.g., fast food). Less adaptation is discerned on Web sites advertising durable goods, and very little adaptation is seen on Web sites advertising industrial goods. These findings are consistent with those presented in this issue by the website analyses undertaken by Elizabeth Würtz and Ewa Callahan.

Given the claim in World Systems Theory that international interaction "is organized as a center to periphery structure," *George Barnett and Eunjung Sung* seek to determine whether Hofstede's cultural dimensions relate to such center-periphery Internet flows. Barnett and Sung begin with "network centrality," defined as "the

number of links or the social distance required to reach all the other components in a network.” While the economic factor of national GDP most strongly correlates with network centrality, Barnett and Sung’s analysis further shows a statistically significant correlation between centrality and individualism and, to a lesser degree, uncertainty avoidance.

While recognizing the possible limits and biases of their work, Barnett and Sung nonetheless provide one of the most extensive and careful quantitative analyses of correlation between a specific expression of Internet usage (i.e., network centrality) and Hofstede’s axes. Their findings are consistent with Hermeking’s evidence for Hofstede’s axes of individualism and uncertainty avoidance correlating with Internet usage.

*Ewa Callahan* further discusses Hofstede’s dimensions, providing an overview of recent studies that have sought to use Hofstede in their analysis of Web site organization and visual design. While these previous studies have been useful, Callahan undertakes a significant new analysis. After analyzing how far four of Hofstede’s dimensions work in the *graphical* elements of university Web sites (so chosen in order to reduce variability in terms of genre) in eight countries, Callahan undertakes a statistical analysis of how far the findings for the websites in each country correlate with Hofstede’s index values for the same countries. Callahan shows that the Web sites analyzed *do* demonstrate correlations with Hofstede’s dimensions, but these are statistically weaker than initially hypothesized. This comparison reveals that, in addition to characteristics of national culture as delineated by Hofstede, other factors, such as genre, available technology, and institutional guidelines, affect Web site design.

Like Callahan, *Elizabeth Würtz* focuses on a single genre of Web site: the advertising websites of McDonalds fast-food restaurants, as these are apparently “globalized” in diverse cultures/countries around the world. While recognizing some of the trenchant criticisms of Hall and Hofstede articulated by Callahan (and anticipating several of the critiques developed more fully in Section II), Würtz argues that McDonalds’ Web sites betray graphical design features that are consistent with Hall’s distinction between high context (HC) and low context (LC) cultures, a distinction she helpfully expands to include attention to directness and indirectness, the role of nonverbal language, etc. Similarly, in taking up Hofstede’s dimensions of collectivism/individualism and power distance, Würtz uses additional characteristics identified by Hall—polychronic vs. monochronic time perception—and by Hall and Hall—message speed—to develop a somewhat more sophisticated analytical framework than is provided by Hofstede’s dimensions alone. From there, Würtz develops four hypotheses:

1. HC cultures are likely to use more imagery and less text than LC cultures;
2. HC cultures will develop strategies for mimicking human presence online more than LC cultures;
3. LC Web sites will be more consistent in layout and use of color than HC websites; and

4. Imagery chosen for HC websites will represent HC cultural values (e.g., importance of family), while LC websites will reflect LC cultural values (e.g., individualism).

Würtz discovers important counterexamples to her hypotheses. For example, websites from HC cultures include navigation elements that one would expect of both HC *and* LC cultures (thus consistent with Hermeking's findings). At the same time, this example also shows that the Internet as a global medium is likely to foster precisely an adaptation of HC cultures to the LC communication styles that predominate in the West. Nonetheless, even with these sorts of exceptions, Würtz's analytical framework, synthesizing Hall and Hofstede, largely works to describe *graphical* design approaches in HC and LC cultures. This finding further suggests that website designers seeking to make their sites accessible to specific cultural groups will likely profit (perhaps in more than one sense) from using Würtz's summary of how specific parameters (animation, transparency, etc.) are addressed in HC and LC cultures as a starting point for developing "culturally-aware" website design.

Finally, *Wai Peng Lee* reports on a focused study in Singapore that takes up Hall's distinction between monochronicity and polychronicity. Monochrons (originally associated by Hall with the cultures of Northern Europe and North America) prefer to organize their time in a linear, "one thing at a time" manner, in contrast with polychrons (originally associated with the cultures of Latin America and the Middle East) as more relaxed about deadlines, etc. Polychrons are more likely to be multitaskers, capable of handling several responsibilities simultaneously. Originally developed as a macrolevel construct—that is, as descriptive of national cultures—this distinction has been taken up in the fields of management and organizational behavior with inconsistent results. Lee seeks to clarify these inconsistencies through her own study, focusing on individual time-preferences among Internet users in Singapore. As she points out, the Internet would seem to be the ideal medium for multitasking polychrons: Its famous collapse of traditional boundaries of time and space and multiple channels of communication would seem perfectly suited to multitaskers who prefer nonlinear approaches to time. Somewhat surprisingly, however, Lee's survey results did *not* show a strong correlation between polychronicity and Internet use.

Lee's findings are significant because they show that actual behaviors do not always follow what we might predict, based in this instance on Hall's distinctions between monochrons and polychrons. They thereby reiterate, for better and for worse, the mixed results of earlier research; they further suggest that Hall's distinctions may not be as salient as they initially appear.

In sum, the articles gathered in Section I show that, despite well-recognized limitations, Hall and Hofstede "work" as frameworks for predicting and analyzing intercultural communication online, although with varying degrees of success. Based on the research gathered here, Hall and Hofstede seem most useful for developing the *graphical* elements of website advertisements, either of consumable goods, such as

fast food, or of universities (!). As applied to other cultural dimensions of CMC (i.e., Internet usage as predicted by the distinction between polychrons and monochrons *within* a given culture, and network centrality *between* national cultures as correlated with Individualism and high uncertainty avoidance), however, Hall and Hofstede's models are apparently significantly less predictive.

### Critical Turns, Alternative Frameworks

A number of criticisms have been leveled at Hofstede's, and, to a lesser extent, Hall's, conceptions of culture that are relevant to the context of online communication. Hofstede's analyses focused on face-to-face interactions in *organizational* contexts, in the attempt to appeal to a notion of a presumably homogenous *national* culture to help explain problems in organizational communication. By contrast, what interests CMC researchers is how national, as well as other cultural identities (ethnicity, youth culture, gender, etc.), interact with intercultural communication *online*; that is, already removed from the face-to-face setting, and not only with regard to organizational behavior. Hence, while Hofstede's axes (as we have seen in Section I) may be successfully adapted to use for CMC research on intercultural communication online (specifically, Web pages advertising consumable goods and universities), there is something of a misfit between Hofstede's original research intentions and design and those of CMC researchers examining online intercultural communication.

More generally, the polarities of Hofstede's cultural dimensions—initially, individualism/collectivism, high/low power distance, masculinity/femininity, and high/low uncertainty avoidance, later followed by the “Confucian” polarity of long-term/short-term—run the risk of essentializing national culture as something fixed. One of the most common critiques of Hofstede's dimensions of culture is their apparent presumption that everyone within a given national culture fits within a simple polarity; for example, all Chinese are collectivists while all US citizens are individualists. Whether or not this line of criticism is fair to Hofstede, it is clear that the effort to reduce the complexities of culture to five or six continua runs the risk of oversimplification, if not stereotyping. Moreover, such frameworks give us, at best, a crude set of tools for analyzing culture; again, five or six dimensions vis-à-vis the 50–70 elements of culture identified by anthropologists and others interested in cross-cultural communication (e.g., Murdoch, 1945). Indeed, having only five or six dimensions for the analysis of culture seems like attempting brain surgery with a bulldozer.<sup>3</sup>

As a first step in developing a more complex cultural theory with applications to the Internet, *Wei-Na Lee and Sejung Marina Choi* take up Triandis' (1995, 2001) distinctions between horizontal and vertical individualism and collectivism. Briefly,

Horizontal individualistic people desire to be unique and to do their own thing whereas vertical individualistic people not only want to do their own thing but also strive to be the very best. People who are horizontal collectivists cooperate with their in-groups. In contrast, those collectivists who submit to the hierarchy

defined by their in-groups and are willing to sacrifice themselves for their in-groups are generally vertical in their orientation. (Lee & Choi, this issue, citing Triandis 2001, Triandis & Suh, 2002)

Lee and Choi use these distinctions to then determine whether differences along these lines may be discerned among Web users' *within* an individualistic culture. Based on an online survey, they find correlations between the four types of cultural orientation on the one hand and Web skills and attitudes towards Web advertising on the other, as predicted. Specifically, horizontal individualistic individuals believe their skill levels to be higher in comparison with other groups. This same group also tends to have more negative views towards Web advertising than the other groups.

Lee and Choi's research suggests that these cultural orientations vary by ethnicity as well. If so, these findings (albeit based on a small sample size) would be in keeping with Wilson's (2002, 2004) more extensive research into ethnicity and media preferences. Indeed, as André Brock (see below) makes very clear, despite the well-known AT&T ad from the 1990s that promised us a gender-blind and color-blind utopia on the web, race is *not* invisible or irrelevant in cyberspace. Moreover, these findings are consistent with the point first made in Hermeking: Hofstede and Hall appear to be limited to national cultural differences and thus less well-suited for understanding and researching the multiple cultural differences *within* nation-states, including precisely the "third" or hybrid identities that are themselves fostered by the cultural flows facilitated by the Internet and the web.

Anne Hewling carries these criticisms of Hofstede and Hall into a specific online environment, that of the online classroom.

In a first complication of overly simple applications of Hofstede and Hall, Hewling notes that a multicultural online classroom:

requires that attention be paid not so much to cross-cultural interaction, with its implication of crossing a single cultural divide, but to intercultural communication where the focus is on interaction among participants identifying simultaneously with multiple cultural frames of reference. (Hewling, this issue)

Hewling acknowledges the point made in Section I: that Hall's distinction between high context and low context communication *does* seem consistent with research findings contrasting online participation between Westerners and Asians (e.g., Kim & Bonk 2002; Morse 2003). At the same time, she voices several of the criticisms of Hofstede we have already noted. The most problematic criticism for understanding intercultural interactions in the online classroom is that "this essentialist framework offers no means of understanding how collaboration happens among members of different national groups who do not share cultural understandings supposedly afforded by shared nationality." Here Hewling quotes Scollon and Wong-Scollon (2001), "Cultures do not talk to each other; individuals do" (p. 138). As we noted above, thanks to the communicative possibilities provided by the Internet and the web as global media, more and more people *become* cultural hybrids or "third identities"

that entail operating from at least two national cultures. According to Hewling, class participants *generate* a new “third” culture precisely through their distinctive engagements online. Thus a new approach to analyzing online intercultural communication that can go beyond Hofstede’s simple polarities is clearly needed.

Hewling proposes to develop such an approach through content analysis of online classroom interaction. Analyzing interactions among Canadians, an American, and a Sudanese, Hewling finds that predictions made from the frameworks developed by Hall and Hofstede fail to capture what actually happens online among these diverse students. On the contrary, cultural frameworks oriented to national identity entirely miss what emerge as central issues in these exchanges. Hewling characterizes these issues as uncertainty regarding the possible authority (or lack thereof) of elements that may be introduced in such discussion, such as course materials, outside literature, tutor messages, personal experience, and personal opinion. These concerns are expressed by American students, among others; that is, those who, according to Hofstede, should be least concerned about authority (as coming from a low power distance country) and most likely to express opinions directly and forthrightly (as coming from an individualist country).

The sharp contrasts Hewling documents between the details of the emergent culture of an online classroom and the broad (and in this case, inapplicable) frameworks developed by Hofstede thus make clear once again that whatever utility previous CMC research has demonstrated for Hofstede’s cultural dimensions, more work remains to be done on developing more fine-grained analytical tools that help us better capture the complex details of online communication as these relate to “culture” in a number of ways.

*André Brock* likewise seeks to develop a distinctive alternative framework of analysis, one that makes no use whatsoever of Hall or Hofstede. Picking up from more familiar analyses of the Digital Divide, Brock undertakes to develop a distinctive analytical framework based on W. E. B. DuBois’ extensive analysis of race and racism in the USA. He then conjoins the resulting “Philosophy of Black Experience in America” with critical discourse analysis to develop a coding system for analyzing the U.S. version of *Yahoo!* and a website devoted to Black users, *Africana.com*. The results are both consistent with earlier analyses of race in cyberspace (Kolko, Nakamura, & Rodman, 2000) and help extend our understanding of the causes of the Digital Divide beyond what Brock identifies as “deficiency models” that see lower skill levels and literacy rates among minorities as the primary culprits. In addition, Brock’s analysis, focusing on the content of Web sites, demonstrates a strong cultural mismatch between mainstream sites such as *Yahoo!* and Blacks in the US, in contrast with a strong cultural match between a site such as *Africana.com* and the specific interests, cultural values, and conceptions of self-identity identified in DuBois’ original analyses. Finally, Brock’s proposed framework seeks to overcome a central critique of Hofstede’s framework; namely, Hofstede’s presumption of culture as fixed and essentialist, vis-à-vis what Brock characterizes as the “fluid, dynamic nature of the Black community.”



Last, *Anthony Faiola* and *Sorin Matei* offer perhaps the most dramatic of the paradigm shifts proposed in this section, as they take up Hall and Hofstede in terms of their *psychological* foundations. They argue that Hall's and Hofstede's assumptions about culture and behavior are tied to the behaviorist school of psychology, which was dominant (at least in the United States) in the mid-20th century but subsequently supplanted by cognitive psychology. Accordingly, they propose to build a framework for analyzing cross-cultural communication online that focuses on *cognition*, based specifically on the work of Vygotsky ([1934] 1979, [1932] 1989) and Nisbett and colleagues (Nisbett & Norenzayan, 2002; Nisbett, Peng, Choi, & Norenzayan, 2001). The resulting "cultural cognition theory" argues that web design is shaped by cognitive processes and styles that are themselves the product of culture. Their study of North American and Chinese users then shows that individuals accomplish information-seeking tasks faster when using web content created by designers from the user's culture of origin.

Faiola and Matei highlight specifically the elements of "page format, imagery, color, information architecture, and system interaction." This is similar to Würtz and Callahan in Section I, who found strong cultural differences in the graphical elements of websites. While drawing on a distinctively different framework for cultural analysis, Faiola and Matei thus reiterate the importance of what we call "culturally-aware design:"

To build sites that are robust environments for content delivery, web designers must understand how cognitive style can directly impact web interface and content design and user interaction, especially in terms of holistic and analytic orientation, and their consequences for user behavior in interactive, hyperlinked media environments. (Faiola & Matei, this issue)

Their article, finally, includes one of the most extensive reviews of research on cross-cultural communication vis-à-vis online environments among the articles collected here.

## Conclusions

The research gathered in Section II provides a response to a central critique of Hofstede; that is, that his frameworks are too simple. Lee and Choi introduce additional nuance by expanding the notion of Individualism into two dimensions (vertical and horizontal), as based on the work of Triandis (2001). More radically, the alternative frameworks proposed by Hewling (critical discourse analysis), Brock (based on the cultural analyses of W. E. B. DuBois), and Faiola & Matei (cultural cognition theory) offer new insights. Their success suggests that specific expressions and phenomena of intercultural communication online might be more appropriately and fruitfully examined through frameworks of cultural analysis that go beyond those of Hall and Hofstede. Indeed, these foci of intercultural communication online are especially important, beginning with distinctive groups *within* a national culture (in the cases

we have seen, African-Americans in the United States and horizontal and vertical individualists in Singapore). In addition, alternative frameworks appear to be required for studying individuals whose intercultural communication reflects: (a) a multitude of “cultures,” and (b) “culture” as a series of practices and habits that are fluid, dynamic, and changing, especially as *generated* by intercultural communication online.

Again, the research collected in Section I shows that the frameworks of Hall and Hofstede “work,” but are most successful with regard to the graphical elements of advertising websites. By contrast, Section II makes clear that these frameworks are not well-suited for a range of important foci of CMC research: the multiple minority cultures *within* a given national culture; the third cultures and hybrid identities facilitated by intercultural flows online; and “culture” as something fluid and dynamic, in part precisely because “culture” is constructed out of our online intercultural encounters (whether within organizations or in online classrooms). At the same time, it is noteworthy that the most successful uses of Hall and Hofstede in Section I—Würtz’s and Callahan’s findings regarding the graphical elements of advertising websites—are consistent with the findings of the most radical shift from Hall and Hofstede proposed in Section II, i.e., Faiola and Matei’s determining the culturally-variable importance of format, imagery, color, information architecture, and system interaction.

We hope that interested readers will find here both useful applications of the classic models of Hall and Hofstede as well as a sharper sense of what cultural frameworks may be best suited for research into a diverse range of specific elements and aspects of intercultural communication online. While Hall and Hofstede appear to have predictive and explanatory power, especially with regard to advertising online, an important genre of intercultural communication, it would seem that alternative approaches will become increasingly necessary as online intercultural communication is fostered by the continued expansion and diffusion of the Internet and the Web. We hope that the examples presented in this collection will inspire further research into what promises to be increasingly important expressions and phenomena of intercultural communication online.

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## Notes

- 1 CATaC (Cultural Attitudes towards Technology and Communication) is a biennial conference series that we cofounded and have cochaired since 1998. For more information, including the Call for Papers for the upcoming CATaC'06 in Tartu, Estonia, see our website: <http://www.it.murdoch.edu.au/catac/>
- 2 See, however, the extensive literature review provided by Faiola and Matei, this issue, as well as Al-Saggaf (2003), Ess (2003), Macfadyen, Roche, and Doff (2004), and Yetim (2001). For further discussion, see Ess (2005).
- 3 This striking metaphor was used by the physicist Louis K. Jensen in describing the efforts to use the tools of Newtonian mechanics to delve into the far more subtle and complex aspects of sub-atomic phenomena (cited in Taylor, 2000, p. 69).

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